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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,341	11/18/2003	Takanori Nishio	16869K-040510US	8188

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EXAMINER

INOA, MIDYS

ART UNIT PAPER NUMBER

2188

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,341

Applicant(s)

NISHIO ET AL.

Examiner

Midys Inoa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoroff et al. (6,023,744) in view of Jeon (US 2003/0028614) and Microsoft Dictionary, where the dictionary is used solely as an evidentiary reference.

Regarding Claim 9, Shoroff discloses a method of operating a storage system wherein when a storage system detects that a remaining amount of its own storage area has become less than a predetermined value; wherein the predetermined value is predetermined to be that of the size of the processed data; a local storage area provided by the storage system is made available as said storage area (Column 10, lines 45-54). This system detects that a remaining amount of its own storage area has become less than a predetermined value by determining if certain processed data, whose size is of a predetermined value, will fit in the remaining space in the target file. If the space is not sufficient, additional disk space is requested from the file system in order to enlarge the target file (see Figure 12 and Column 4, lines 39-45). Shoroff does not teach performing a mount operation on one or more disk units so that a remote storage area may serve as said storage area. Jeon discloses a system in which a disk is inserted into a local computer in order to certify access to a remote storage system 300 thus allowing the local computer to use a remote storage unit as auxiliary memory (Page 1, paragraph 13 and Page 3, paragraph 39).

Upon certification an automatic connection program connects the remote storage to the network, thus making the network accessible to the local computer. This step constitutes as a mount operation since a mount operation is making a physical disk accessible to a computer's file system (Microsoft, Page 298). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the system of Shoroff to seek additional storage space remotely when needed since expands the storage capabilities of the system at hand by not limiting storage to what is available locally.

Regarding Claim 10, Shoroff in view of Jeon discloses the method of operating a storage system according to claim 9. Jeon discloses communicating specifications such as a size and a logic format of said remote storage area to be utilized from said storage system to said remote storage system through the use of a certification key identifying the appropriate remote storage area (Page 3, paragraphs 40-41) and wherein said remote storage system provides said remote storage area having said specifications as the storage area for said storage system (Paragraph 41). In the combination of Shoroff in view of Jeon, since additional space from the remote storage is to be used to increase the size of the target file, this additional space must possess the specification (such as additional size needed and same logic format) that the system needs. If the specification of the additional memory space is not compatible, then the additional space requested from the file system would be useless. To ensure that this does not happen, the specifications of the space needed must be known by the system.

Regarding Claim 11, Shoroff in view of Jeon discloses the method of operating a storage system according to claim 9. Both Jeon and Shoroff disclose monitoring a utilization state of said additional (both remote and non remote) storage area for said storage system (see Jeon, page

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3, paragraph 41 and Shoroff, Column 10, lines 45-54). Shoroff discloses determining whether or not said storage area in said storage system is to be increased is according to said utilization state (Column 10, lines 45-54). Shoroff determines if the processed data fits in the remaining space of the target file. Such a determination requires the monitoring of the used capacity of the target file as well as monitoring of the space available in the remote storage ("utilization state"). Referring to Figure 12, step 206 reads the used capacity of the target file, calculates how much empty space is remaining in the target file and then determines if the processed data fits into the target file. In step 208 a calculation is made as to how much of the remote storage is needed to fit the processed data in the target file and such storage amount is used to increase the target file.

Regarding Claim 12, Shoroff in view of Jeon discloses the method of operating a storage system according to claim 9, wherein data stored and managed in said storage area is **copied to the storage area of said storage system when the storage area of said storage system is enlarged** (Column 10, lines 45-54). This system does not store the processed data into the target file until such target file is enlarged to fit the contents of the processed data.

Regarding Claim 13-20, Shoroff in view of Jeon discloses the storage system used in the method of operating a storage system according to claims 9-12, comprising at least one unit providing said storage area (remote computer system 300), and a communication interface (Network 100) for communicating with said remote storage (342). See Jeon, Figure 1.

Regarding Claim 21, Shoroff discloses a method of operating a storage system wherein when a storage system detects that a remaining amount of its own storage area has become less than a predetermined value; wherein the predetermined value is predetermined to be that of the size of the processed data; a local storage area provided by the storage system is made available

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as said storage area (Column 10, lines 45-54). This system detects that a remaining amount of its own storage area has become less than a predetermined value by determining if certain processed data, whose size is of a predetermined value, will fit in the remaining space in the target file. If the space is not sufficient, additional disk space is requested from the file system in order to enlarge the target file (see Figure 12 and Column 4, lines 39-45).

Said storage system of Shoroff has a correspondence between a port ID for specifying each disk unit (file information maintained in records in master file table 50, column 5, lines 1-20), and an identifier of said first disk unit or an identifier of said second disk unit (pointers 78 or 82, column 10, lines 57-67), and wherein, when said storage system uses said additional storage area as its storage area, said storage system has a correspondence between: said port ID (in master file table) which identifies the data file extending the target file, and an identifier of said second disk unit that provides said remote storage area (pointers 78 and 82, tracking the point to which data has been read from and which increase when the target file is increased).

Shoroff does not teach performing a mount operation on one or more disk units so that a remote storage area may serve as said storage area. Jeon discloses a system in which a disk is inserted into a local computer in order to certify access to a remote storage system 300 thus allowing the local computer to use a remote storage unit as auxiliary memory (Page 1, paragraph 13 and Page 3, paragraph 39). Upon certification an automatic connection program connects the remote storage to the network, thus making the network accessible to the local computer. This step constitutes as a mount operation since a mount operation is making a physical disk accessible to a computer's file system (Microsoft, Page 298). It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the system of Shoroff to

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seek additional storage space remotely when needed since expands the storage capabilities of the system at hand by not limiting storage to what is available locally.

Response to Arguments

2. Applicant's arguments with respect to claims 9-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Midys Inoa whose telephone number is (571) 272-4207. The examiner can normally be reached on M-F 7:00am - 4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Midys Inoa
Midys Inoa

Examiner
Art Unit 2188

Mano Padmanabhan
01/10/05

MI

MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER